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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,862	03/04/2005	Mark Thomas Johnson	NL 020837	5466

24737 7590 06/28/2007

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

HO, BAO QUAN T

ART UNIT	PAPER NUMBER
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2609

MAIL DATE	DELIVERY MODE
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06/28/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.	Applicant(s)	
10/526,862	JOHNSON ET AL.	
Examiner	Art Unit	
Bao-Quan T. Ho	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.
2. The disclosure is objected to because of the following informalities: referencing to claims in the specification needs to be removed, and the specification needs to be labeled correctly, as shown below.

Appropriate correction is required.

3. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

- (I) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tagawa, US Patent 5,392,058 (hereafter referenced as Tagawa), and further in view of Ootsuka et al., US Patent 7,126,569 (hereafter referenced as Ootsuka).

Regarding to claim 1, "a matrix of pixels" reads on the display panel 1 with matrix of pixels as Tagawa discloses in fig. 4 and also fig. 26 that is a general construction of the device as shown in fig.4.

The "sensing circuit for sensing a touch position with a first subset of the pixels forming a first area" reads on amplifier 9 that amplifies the detection pen 8 and then inputs to an x-coordinate detection circuit 10 and a y-coordinate detection 11, as Tagawa discloses in fig. 26 and in col. 52 lines 35-60.

The "addressing circuit for addressing a second subset of the pixels forming a second area of said matrix display being non-overlapping with the first area to display information dependent on the touch position" reads on the upper common drive circuit

2U and the upper segment drive circuit 3U to drive area 1wU, while the lower common drive circuit 2L and the lower segment drive circuit 3L to drive area 1wL, as Tagawa discloses in fig. 4 and in col. 32 lines 21-27. These drives operates in conjunction with the display control circuit 5 and position diction control circuit 6 to display information or to sense touch positions.

The "controlling circuit for controlling the addressing circuit to address the first area intermittently during sense area address periods to supply display information to the first area in-between the sense periods only" reads on the timing chart in fig. 7 to have the display information be supplied in-between the coordinate detection periods, as disclosed by Tagawa.

Tagawa disclose all subject matter of the touch sensitive matrix display, except for "a non-address period of time between two successive sense area address periods being at least as long as a display area address period wherein all the pixels of the second area are addressed, the pixels having an optical state which, when not address, is maintained longer than the non-address period of time". Ootsuka teaches that it is known to use liquid crystal with a memory effect to conserve energy (col. 2 lines 27-35). Ootsuka uses a control circuit to execute a rewriting process, when a contact action with a screen of the display section is made (col. 2 lines 6-26). If there is no contact to be made then the display will use the memory effect to keep the pixels in optical state until a contact action is made with the sensing section. It would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the apparatus of Tagawa to use liquid crystals with memory effect as taught by Ootsuka, for the purpose

to have the display device conserve energy when there is no touch sensing present on the display.

Regarding to claim 8, "a signal processor for supplying input data to the addressing circuit in dependence on the touch position sensed to generate at least part of an image to be displayed on the touch sensitive matrix display" reads on the coordinate output selection circuit 28 that outputs the x-coordinate and y-coordinate during the coordinate detection period as disclosed by Tagawa in fig. 26 and in col. 53 lines 10-22.

Regarding to claim 9, "a method of touch sensing in a touch sensitive matrix display comprising a matrix of pixels, the method comprising sensing a touch position with a first subset of the pixels forming a first area of said matrix display, wherein the pixels have an optical state which, when not addressed, is maintained longer than a sense period during which the sensing circuit senses the first area" reads on the combination of Tagawa and Ootsuka when there is no contact to be made then the display will use memory effect to keep the pixels in optical state until a contact action is made with the sensing section.

A method of "addressing a second subset of the pixels forming a second area of said matrix display being non-overlapping with the first area to display information dependent on the touch position" reads on the upper common drive circuit 2U and the upper segment drive circuit 3U to drive area 1wU, while the lower common drive circuit 2L and the lower segment drive circuit 3L to drive area 1wL, as Tagawa discloses in fig. 4 and in col. 32 lines 21-27.

A method of "controlling the addressing circuit to address the first area intermittently to supply display information to the first area in-between the sense periods only" reads on the timing chart in fig. 7 to have the display information be supplied in-between the coordinate detection periods, as disclosed by Tagawa.

Claims 2, 3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Tagawa and Ootsuka as applied to claim 1 above, and further in view of Yrjänäinen et al., US Patent 7,136,048 (hereafter referenced as Yrjanainen).

Regarding to claim 2, The combination of Tagawa and Ootsuka discloses all subject matter of claim 1, but do not disclose a "the sensing circuit being coupled to a subset if the select electrodes only, for only sensing in the first area." Yrjanainen discloses a integrated display 602 with a writing surface 604 that is only a subset of the display 602, as shown in fig. 6 and in col. 5 lines 31-49. It would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the apparatus of Tagawa to have only one subset, 1wU or 1wL that both have common electrodes and segment electrodes (col. 4 lines 38-65), be sensed as taught by Yrjanainen, for the purpose to reduce the duration of the coordinate detection period when only one of the subset is needed to operate as a touch sensitive area.

Regarding to claim 3, "A touch sensitive matrix display, characterized in that the select electrodes comprise a first set of select electrodes and a second set of select electrodes, the data electrodes comprise a first set of data electrodes and a second set of data electrodes, the first set of select electrodes and a first set of data electrodes

being associated with the first area, the second set of select electrodes and the second set of data electrodes being associated with the second area, and in that the addressing circuit comprises a first select driver coupled to the first set of select electrodes, and a first data driver coupled to the first set of data electrodes for intermittently sensing touch input and supplying display information to the first area, and a second select driver coupled to the second set of select electrodes, and a second data driver coupled to the second set of the data electrodes for addressing the second area", reads on fig. 4 and in col. 32 lines 21-27 as disclosed in Tagawa with the combination of Ootsuka and Yrjanainen. The lower segment drive circuit 3L and lower common drive circuit 2L are coupled to the first area 1wL, while the upper segment drive circuit 3U and upper common drive circuit 2U are coupled to the second area 1wU.

Regarding to claim 5, "a touch sensitive matrix display, characterized in that said display further comprises sense electrodes arranged in parallel with the data electrodes and extending in the first area only, the addressing circuit comprises a select driver coupled to the select electrodes, and a data driver coupled to the data electrodes for supplying display information to both the first area and the second area, and the sensing circuit is coupled to sense electrodes and at least a subset of the select electrodes being associated with the first area" reads on fig. 4 and 26 and col. 52 lines 18-21 of Tagawa. The common drive circuit 2 is coupled to both the select electrodes of the upper region 1wU operated by the upper common drive circuit 2U and lower region 1wL operated by the lower common drive circuit 2L seen in fig. 4, while the

segment drive circuit 3 is coupled to the data electrodes and sense electrodes that are arranged in parallel seen in fig. 26.

Regarding to claim 6, "a touch sensitive matrix display, characterized in that the control circuit is adapted for controlling the addressing circuit to address the second area during at least two successive address periods being spaced apart by a sensing period, and for controlling the sensing circuit to sense touch events during the sensing period" reads on the control circuit 7 of Tagawa. The control circuit 7 operates the display control circuit 5 and the position detection control circuit 6, which then operates the address circuits of the segment drive circuit 3 and the upper common drive circuit 2U and lower common drive circuit 2L as disclosed in fig. 4 and 26, also in conjunction with the timing chart seen in fig. 7.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Tagawa, Ootsuka, and Yrjanainen as applied to claims 1 above, and further in view of Rao, US Patent 5,687,132 (hereafter referenced as Rao).

Regarding to claim 4, the combination of Tagawa and Ootsuka discloses all subject matter of claim 1, but do not disclose a "touch sensitive matrix display, characterized in that the data electrodes are-divided in a first group which is associated with the display area, and a second group which is associated with the sense area, in that said display further comprises switches being arranged between corresponding data electrodes of the first and the second group, and in that the control circuit is adapted for closing the switches when the sense area is addressed, and for

disconnecting the corresponding data electrodes of the first and the second group during the sense periods wherein the touch events are sensed in the sense area." Rao discloses in fig. 2 and in col. 8 lines 45-57, a column control circuit 206 that is between two arrays 200a and 200b. It would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the apparatus of the combination of Tagawa and Ootsuka to have a column control circuitry in-between the two subsets 1wU and 1wL as taught by Rao, for the purpose to allow the transfer of data to be faster.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tagawa in view of Ootsuka, as applied to claim 1 above, and further in view of Comiskey et al., US Patent 7,023,420 B2 (hereafter referenced as Comiskey).

Regarding to claim 7, "a touch sensitive display, characterized in that said matrix display is an electrophoretic display". It would have been obvious to a person of ordinary skill in the art at the time invention was made to modify the matrix display to be an electrophoretic display as taught by Comiskey for the purpose of good brightness and contrast, wide viewing angles, state bistability, and lower power consumption, as disclosed by Comiskey in col. 1 lines 29-34.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bao-Quan T. Ho whose telephone number is (571) 270-

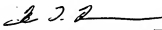
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3264. The examiner can normally be reached on M-F, 7:30 am to 5:00 pm EST, alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian T. Pendleton can be reached on (571) 272-7527. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BTH
June 25, 2007


BRIAN TYRONE PENDLETON
PRIMARY EXAMINER